

Refinement of Initial Draft Plan

Restudy Team Directive:

At the Restudy meeting the week of June 2, an initial draft plan, Alternative D, was selected. It was also agreed at that time that Alternative D needed refinement to improve its performance in some areas. Four key areas, WCA-2, WCA-3, Shark River Slough, and Florida Bay were identified as areas where improvements should be made. During the 11-day period from June 5-15, 1998 an ad-hoc team of engineers and ecologists conducted an iterative process to attempt to improve the hydrologic performance of Alternative D in the WCAs and Everglades National Park. During this week and a half, many refinements to operations and structures were made to Alternative D. Initially, the refinements consisted of only operational changes (iterations D1-D7); these proved inadequate to meet the directive from the Restudy Team. Structural changes were necessary to achieve the desired performance, resulting in model runs D8-D13. The final iteration, D13, represents refinements to the initial draft plan that improve its performance in the remaining Everglades, to provide for a sustainable Everglades ecosystem and move towards restoration.

Another area identified by the Restudy Team where improvement was warranted was the St. Lucie Estuary. A separate team is still working on this issue and will report on their progress at the June 18th meeting.

Initial Draft Plan Refinements:

Seven SFWMM simulations were performed which attempted a variety of operational changes to the Alternative D structures. These operational changes resulted in marginal improvements to the hydrologic performance. The seventh iteration (D7) was considered by the team to be the best that could be achieved without structural modifications.

D7 was build on Alternative D but included the following operational modifications:

1. The G-1502 time series target was raised 6 inches with the peaks truncated at 6 inches above land surface elevation.
2. The crests of the southernmost two L-67 weirs were lowered by approximately 1.0 ft to 0.1 ft above land surface elevation.

Six additional simulations were performed to test structural and operational modifications for further improving the hydrologic performance in the WCAs and ENP. The sixth iteration that included structural modifications (D13) was considered by the team to be the best.

D13 was built on D7 but included the following structural and operational modifications:

1. L-28 and L-29 levees and borrow canals from the L-28 tieback to L-67 removed.
2. S-344, S-343 A and B and S-12 structures removed.

3. Relocate S-345 structures 2 miles further south to replace L-67 weir 6.
4. Relocate L-67 weir 6, 2 miles further north to replace S-345s.
5. Raise crests of L-67 weirs 1-6 by approximately 1 ft.
6. Crest lengths of L-67 weirs 7 and 8 were each doubled from 185 to 370 ft.
7. Put back L-67A canal except that the reach south of S-345s was backfilled.
8. Operate WCA-2A import using only 2A-N gage as trigger rather than using average of 2A-N and 2A-17 gages.
9. Time series target at 2A-N was truncated at 1.25 ft above and 0.5 ft below land surface elevation.
10. Time series target at 3A-NE was truncated at 1.0 ft above and 0.5 ft below land surface elevation.
11. S-345 operations modified to be based on triggers at R33C26 and the NESRS-1 and NESRS-2 gages (3A-4 gage no longer used).
12. S-349 operations set the same as those of the S-345s.

Preliminary Results:

Refinements made to the initial draft plan indicate major improvements in the WCAs and Everglades National Park without compromising Lake Okeechobee water levels or water supply to LOSA and LECSA. The modifications relieved adverse high and low water conditions in the WCAs. Flow volumes to Shark River Slough were increased while seasonal distribution of flows as indicated by NSM was maintained. The number of drydowns in Shark River Slough was reduced to three events over the period of record compared to two events under NSM. Salinity in Florida Bay coastal basins as indicated by P33 stages was improved as well. These improvements were achieved through partial decompartmentalization of WCA-3 and the park, which makes Alternative D more like Alternative B as directed by the Restudy Team.

Posting on Web:

The model runs, D7 and D13 have been posted for review. AET subteam members need to look at and evaluate the two runs so that subteam chairs can report on the performance of D7 and D13 at the June 18th meeting. The performance of the refined initial draft plan will be discussed in full at this time. Please note that this meeting has been expanded to include the full Restudy Team. It will begin at 10:00 am in the B-1 Auditorium at SFWMD headquarters.